

REMARKS

Claims 1-9, following entry of this Amendment, are all the claims pending in the application. Claim 9 has been added.

Claims 1-3 and 5-7 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Smith et al. (U.S. Patent No. 4,296,069) (hereinafter "Smith") in view of Hamblen et al. (U.S. Patent No. 4,053,381) (hereinafter "Hamblen"). Claims 4 and 8 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Smith in view of Hamblen, and further in view of Bell et al. (U.S. Patent No. 5,814,277) (hereinafter "Bell").

FORMALITIES

In the concurrently filed Request for Approval of Proposed Drawing Corrections, Applicant proposes to delete the pair "11f (second occurrence)" and replace it with the pair --11g-- in Figure 12B.

The specification has been amended to correct minor errors.

PRIOR ART REJECTIONS

The Examiner has rejected claims 1-3 and 5-7 under 35 U.S.C. § 103(a) as being unpatentable over Smith in view of Hamblen. Of the claims, claims 1 and 5 are independent. The Examiner avers that Smith discloses the claimed invention with the exception of Applicant's "ionic activity measuring means." While the Examiner alleges that Hamblen makes up for the deficiencies of Smith, Applicant submits that the rejection is unsupported for two reasons. First, these references, taken singularly or in combination, fail to disclose a number of features recited

in the independent claims. Second, a person of ordinary skill in the art would not have been motivated to combine these references in the manner proposed by the Examiner.

Smith fails to teach or suggest both Applicant's claimed "means for spotting a sample onto a *first* chemical analysis element ... (emphasis added)," and "means for spotting a sample liquid and a reference liquid onto a *second* chemical analysis element ... (emphasis added)," as required by independent claims 1 and 5. Newly added independent claim 9, which has been written in non-mean-plus-function format, has similar limitations. To be sure, Smith discloses a meter device 18 for spotting a sample liquid onto an analysis slide. A second meter device (not shown) is also provided for spotting a reference liquid onto each analysis element. *See* column 3, lines 40-45. In other words, the second meter device "meters" reference liquid onto every analysis element that also includes the sample liquid. *See* column 3, lines 42-45. Conversely, independent claims 1 and 5 require two distinct means for spotting 1) only a sample liquid onto a first analysis element, and 2) two liquids, i.e., a sample liquid and a reference liquid, onto a second analysis element. Indeed, Smith does not teach or suggest both claimed spotting means.

Hamblen fails to remedy the above deficiency. Moreover, Hamblen fails to teach or suggest Applicant's claimed "ionic activity measuring means which is provided to measure the ionic activity of the specific ion contained in a sample liquid ..." It is important to note that Hamblen is not concerned with measuring ionic activity of a specific ion in a sample liquid. Rather, Hamblen concerns selecting specific electrodes in order to determine the activity of ions. *See* Hamblen's column 4, lines 62+. *See* also column 3, lines 12-14 of Smith, which states

“electrodes [are] selective to the ion activity of choice.” Clearly, Hamblen does not teach the required “ionic activity measuring means”.

In addition, as noted above, there is no motivation, rationale or suggestion for combining the Smith and Hamblen references. The Examiner cites column 3, lines 12-22 of Smith for support of the Examiner’s proposed modification. Specifically, the Examiner avers that “it would have been obvious to one of ordinary skill in the art to use ion-selective electrodes ... to help in obtaining more accurate readings of the analyses performed.” However, as suggested above, the text that the Examiner relies upon merely states that an electrode is selected for the ion activity of choice. It is clear that the Examiner has simply attempted to reconstruct the claimed invention by using hindsight knowledge gleaned from Applicant’s own disclosure. The combination, as applied by the Examiner, would not have been within the level of ordinary skill at the time the claimed invention was made. Therefore, the Examiner’s conclusion of obviousness appears to be based upon *improper hindsight reasoning*.

Based on the foregoing, it is submitted that each of independent claims 1, 5 and 9 patentably distinguishes over these references. Further, a number of dependent claims are separately patentable based on the recitations contained therein. For example, dependent claims 2 and 6 require “a chemical analysis element supply section which stores both the first and second chemical analysis elements.” Neither Smith nor Hamblen teaches or suggests this claim recitation, and the Examiner has failed to provide such a teaching or suggestion. As discussed above, Smith does not teach or suggest both spotting means, and correspondingly, Smith cannot teach or suggest storing first and second analysis elements.

Dependent claims 3 and 7 require “a detecting means which detects the position of the chemical analysis element in which the chemical analysis element is conveyed by reading a bar code provided on each of the chemical analysis element.” Neither Smith nor Hamblen teaches or suggests detecting a position of the analysis element by reading a bar code. Moreover, the Examiner has failed to provide such a teaching or suggestion.

Furthermore, with respect to dependent claims 2-3 and 6-7, it is clear from the Office Action that the Examiner has not satisfied her burden of proving that these claims are obvious over the Smith/Hamblen combination. Specifically, in the body of the rejection, the Examiner simply focuses on the features of independent claims 1 and 5, and is silent concerning the features of the dependent claims. Applicant respectfully directs the Examiner to MPEP §2142 which makes it clear that “[to] support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references.”¹ The Examiner has not satisfied this heavy burden.

The Examiner has rejected claims 4 and 8 under 35 U.S.C. § 103(a) as being unpatentable over Smith in view of Hamblen, and further in view of Bell. Applicant respectfully traverses this rejection.

¹ See *Ex parte Clapp*, 227 U.S.P.Q. 972, 973 (Bd. App. & Inter. 1985).

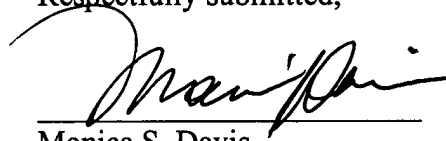
AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Appln. No. 09/236,897

Dependent claims 4 and 8 are dependent upon independent claims 1 or 5, and should be allowable for the same reasons discussed above with respect to claims 1 and 5.

In view of the foregoing, claims 1-9 are now believed to be in form for allowance, and such action is hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, she is kindly requested to **call the undersigned** at the telephone number listed below.

Applicant hereby petitions for any extension of time which may be required to maintain the pendency of this case, and any required fee, except for the Issue Fee, for such extension is to be charged to Deposit Account No. 19-4880.

Respectfully submitted,



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APPENDIX
VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION:

The specification is changed as follows:

Page 8, second full paragraph:

In the chemical analysis systems in accordance with the first and second aspects of the present invention, it is preferred that there is further provided ~~with~~ a chemical analysis element supply section which stores both the first and second chemical analysis elements, and a conveyor means for conveying the chemical analysis element in the chemical analysis element supply section to the incubator.

Page 8, fourth full paragraph:

In the case of the chemical analysis element for measuring the ionic activity, the ionic activity cannot be accurately measured if the spotting order of the sample liquid and the reference liquid is reversed. By detecting the position of the chemical analysis element in which the chemical analysis element is conveyed, it is possible to ~~give the alarm to~~ the operator when the chemical analysis element is conveyed in a wrong position. The bar code may be used for identifying the term of examination and the like.

Page 11, fourth full paragraph:

Figure 11 is a fragmentary enlarged view as seen in the direction of arrow A in Figure ~~11~~10,

Page 17, first full paragraph:

As shown in Figure 5, the conveyor means 15 comprises a conveyor table 30 which has legs 30a at the front and rear ends thereof and is placed on the base 31, and the element supply section 12 is located at the middle of the conveyor table 30 and the spotting station 13 is located between the element supply section 12 and the incubator 14. The element supply section 12 is provided with an element guide 32 which holds the chemical analysis elements 11. Generally, a stack of a plurality of virgin chemical analysis elements 11 are held in the element guide 32. The ~~slide-element~~ guide 32 is mounted on a recess of the conveyor table 30 so that the lowermost one of the chemical analysis elements 11 in the stack is positioned substantially flush with the upper surface of the conveyor table 30. An opening 32a which permits only a single chemical analysis element 11 to pass therethrough is formed in the front face of the element guide 32 at the lowermost portion thereof and an opening which permits insertion of a pusher (to be described later) is formed in the rear face of the element guide 32. Further, a slit 32b which communicates with a slit 30b formed in the conveyor table 30 as will be described later is formed in the bottom of the element guide 32. A cartridge in which a stack of a plurality of chemical analysis elements 11 is stored may be set in the ~~slide-element~~ guide 32.

Page 24, second full paragraph:

As shown in Figure 1, the analyzer 21 for measuring the ionic activity is positioned below the rotary member 50 of the incubator 14. The basic structure of the analyzer 21 is disclosed, for instance, in United States Patent 4,257,862, Japanese Patent Publication Nos. 58 (1983)-4981 and 6 (1994)-82113, and Japanese Unexamined Patent Publication Nos. 58 (1983)-156848 and

58 (1983)-211648. As shown in Figures 7 and 8, the analyzer 21 is provided with three pairs of ~~through-through~~ holes 110, 111 and 112, and three pairs of potential measuring probes 113, 114 and 115 are supported for up-and-down movement in the ~~through-through~~ holes 110, 111 and 112. Since the probes 113, 114 and ~~114~~ 115 are the same in arrangement, only the probe 113 will be described, hereinbelow.

Page 27, second full paragraph:

As shown in Figure 10, a flange member 83 is mounted from rotation by way of a bearing (not shown) on a support member 80 installed on the base 31. A pair of guide rods 84 are erected upward in parallel to each other from the upper surface of the flange member 83. The upper ends of the guide rods 84 are connected to a connecting member 85. A lead screw 86 extends between the connecting member 85 and the flange member 83 and is supported for rotation on the connecting member 85 and the flange member 83. The lower end portion of the lead screw 86 projects downward through the flange member 83 and a pulley 87 is fixed to the lower end of the lead screw 86. ~~A~~ The spotting arm 88 is supported on the guide rods 84 to be movable up and down along the guide rods 84 by way of a pair of of sleeves 89 which are fixed to the base end portion of the spotting arm 88 and slidably fitted on the guide rods 84. A ~~through~~ through hole is formed in the base end portion of the spotting arm 88 and a nut member 90 is fixedly fitted in the ~~through-through~~ hole. The lead screw 86 extends through the base end portion of the spotting arm 88 and is in mesh with the nut member 90, whereby the spotting arm 88 is moved up and down in response to rotation of the lead screw 86.